

Appl. No. 09/998,082  
Appeal Brief in Response  
to final Office action of 28 October 2004

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**IN THE UNITED STATES  
PATENT AND TRADEMARK OFFICE**

Appl. No. : 09/998,082  
Applicant(s) : HARS et al.  
Filed : 11/29/2001  
TC/A.U. : 3621  
Examiner : ELISCA, Pierre E.  
Atty. Docket : US-010203

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On: 8 March 2005By: 

Title: **APPARATUS AND METHOD FOR ATTACKING A SCREENING ALGORITHM  
BASED ON PARTITIONING OF CONTENT**

Mail Stop: **APPEAL BRIEF - PATENTS**  
Commissioner for Patents  
Alexandria, VA 22313-1450

**APPEAL UNDER 37 CFR 41.37**

Sir:

This is an appeal from the decision of the Examiner dated 28 October 2004,  
finally rejecting claims 1-15 of the subject application.

This paper includes (each beginning on a separate sheet):

1. Appeal Brief;
2. Claims on Appeal; and
3. Credit card authorization in the amount of \$500.

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US-010203 Appeal Brief 4.A28 - MAC

Atty. Docket No. **US-010203**

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## APPEAL BRIEF

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### I. REAL PARTY IN INTEREST

The above-identified application is assigned, in its entirety, to Koninklijke Philips Electronics N. V.

### II. RELATED APPEALS AND INTERFERENCES

Appellant is not aware of any co-pending appeal or interference which will directly affect or be directly affected by or have any bearing on the Board's decision in the pending appeal.

### III. STATUS OF CLAIMS

Claims 1-15 are pending in the application.

Claims 1-15 stand rejected by the Examiner under 35 U.S.C. 103(a).

These rejected claims are the subject of this appeal.

### IV. STATUS OF AMENDMENTS

An amendment was filed on 6 December 2004, and admitted, subsequent to the final rejection in the Office Action dated 28 October 2004.

### V. SUMMARY OF CLAIMED SUBJECT MATTER

Security systems have been proposed wherein compliant devices are configured to screen incoming content material to determine whether the content material is protected. If the content is protected, these systems subsequently determine whether access to the material is authorized. If the content is not protected, a subsequent authorization process is not invoked, and access is granted to the content material. Methods of marking content material as protected include, for example, adding a "watermark" to the material. A watermark is designed to be unnoticeable on the content material, but removal of the watermark introduces a noticeable damage to the content material. (Applicants' page 4, lines 6-25.)

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The invention comprises a method and apparatus for attacking a screening algorithm, such as the screening algorithms used to identify protected content material.

Typical screening algorithms require some minimum amount of content material in order to be able to detect the protective marking. For example, a watermark may be attached to a frame of an image, a sector of an audio disk, and so on. This invention is premised on the observation that if a partial frame, partial sector, etc. is provided to the security system, the screening algorithm will often be unable to detect the protective marking. That is, there is some minimal threshold duration of content associated with each screening algorithm, below which the screening algorithm is unable, or unlikely, to be able to detect the protective marking. (Applicants' page 7, line 16 through page 8, line 7.)

As claimed in independent claim 1, the invention comprises a method of attacking a screening algorithm (page 5, lines 19-22) that includes: identifying content to be downloaded (page 8, lines 12-15); partitioning the content (200 of FIG. 2) into at least two sections (page 8, lines 15-19) wherein each of the at least two sections has a duration which is less than a threshold duration value assigned by the screening algorithm (page 8, lines 19-22); and subjecting the partitioned content to the screening algorithm (220 of FIG. 2, and page 8, lines 22-23).

As claimed in independent claim 14, the invention comprises an apparatus for attacking a screening algorithm (FIG. 1 and accompanying text at page 8, lines 8-30) that includes a processing device having a processor and a memory (item 16 of FIG. 1, and page 9, lines 1-27), the processor being configured to: identify content to be downloaded, partition the identified content into at least two sections, wherein each of the at least two sections has a duration which is less than a duration of a threshold duration value assigned by the screening algorithm (item 200 of FIG. 2, and page 10, lines 1-11), and subject the partitioned content to the screening algorithm (item 220 of FIG. 2 and page 10, lines 12-28).

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As claimed in independent claim 15, the invention comprises a machine readable medium containing one or more programs (page 9, lines 22-24) which when executed implement the steps of identifying content to be downloaded (page 8, lines 12-15); partitioning the content into at least two sections (page 8, lines 15-19), wherein each of the at least two sections has a duration which is less than a duration of a threshold duration value assigned by the screening algorithm (page 8, lines 19-22); and subjecting the partitioned content to a screening algorithm (page 8, lines 22-23).

#### **VI. ISSUES TO BE REVIEWED ON APPEAL**

Claims 1-15 stand rejected under 35 U.S.C. 102(e) over Kocher et al. (USP 6,640,305, hereinafter Kocher).

#### **VII. ARGUMENT**

##### **Rejection under 35 U.S.C. 102(e) over Kocher**

MPEP 2131 states:

"A claim is anticipated only if *each and every element* as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The *identical invention* must be shown in as *complete detail* as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

##### **Claims 1-13**

Claim 1 (in *italics*, below), upon which claims 2-13 depend, specifically claims:

- "*1. A method of attacking a screening algorithm,*"

Kocher does not teach a method of attacking a screening algorithm.

- "*the method comprising: identifying content to be downloaded; partitioning the content into at least two sections*"

Kocher does not teach partitioning the content to be downloaded into at least two sections.

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- *"wherein each of the at least two sections has a duration"*

Kocher does not teach a duration associated with sections of the content.

- *"which is less than a threshold duration value assigned by the screening algorithm;"*

Kocher does not teach comparing a duration associated with sections of the content to a threshold duration value assigned by a screening algorithm.

- *"and subjecting the partitioned content to the screening algorithm."*

Kocher does not teach subjecting partitioned content to a screening algorithm.

Kocher teaches "methods and apparatuses **for improving** the security of systems for distributing digital content" (Kocher, column 1, lines 11-13). The Office action does not address the fact that Kocher does not teach a method **for attacking** the security of systems.

The Advisory Action asserts that Kocher teaches "a method of attacking a screening algorithm by partitioning content material into sections" at column 25, lines 20-35.

The cited text of Kocher reads:

"Content providers should change rights keys periodically to ensure that users who have lost their authorization cannot access content. For example, if a user terminates a subscription, the CRU may continue to operate unless the rights key is deleted/disabled or mechanisms outside the CryptoFirewall disable access. Content providers can limit the maximum duration of such use by making rights keys expire periodically (e.g., hourly, daily, weekly, monthly, annually, etc.) To ensure that key changeovers do not disrupt legitimate viewers, new rights keys can be distributed before the old ones are discontinued. During the changeover period, content can also be broadcast with KDMs that can operate using both the old rights key and the new one. An additional option is to queue the REM that updates the key until the key change is required. (Such queuing can be done by the playback device, ICP, etc.)"

As can be seen, the cited text of Kocher addresses the expiration of keys, and is silent with regard to attacking a screening algorithm, and silent with regard to partitioning content material into sections to perform such an attack, as specifically claimed by the applicants.

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The final Office action relies on this same cited text for teaching "partitioning the content into at least two sections wherein each of the two sections has a duration which is less than a threshold duration assigned by the screening algorithm" (Final Office action, page 3, lines 1-5), with further reference to column 22, lines 48-67, which is also cited in the Advisory Action.

The above text of Kocher (column 25, lines 20-35) teaches disabling keys if their duration is greater than a threshold amount, and is unrelated to partitions of the content material. The material at column 22, lines 48-67 of Kocher addresses providing "fixup" values in a Key Derivation Message (KDM), and appears unrelated to this disabling feature, and unrelated to any element in claim 1.

The cited passages of Kocher at column 25, lines 20-35 (above) and at column 22, lines 48-67 are each silent with regard to forming partitions of content material such that their duration is less than a threshold amount, and are each silent with regard to a threshold amount that is assigned by a screening algorithm.

The final Office action asserts that Kocher teaches subjecting sections of content to a screening algorithm at Kocher's abstract, column 2, lines 30-44, and column 10, line 66 through column 11, line 26. The applicants respectfully maintain that the cited text is silent with regard to a screening algorithm that receives sections of content, and the final Office action fails to identify which of Kocher's disclosed components or functions is assumed to correspond to the screening algorithm in the applicants' claims.

Because Kocher does not teach each of the elements of the applicants' claimed invention, the applicants respectfully maintain that claims 1-13 are patentable under 35 U.S.C. 102(e) over Kocher.

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#### Claim 14

Claim 14 (in *italics*, below) specifically claims:

- "*14. An apparatus for attacking a screening algorithm*"

Kocher does not teach an apparatus for attacking a screening algorithm.

- "*comprising: a processing device having a processor and a memory, the processor being configured to: identify content to be downloaded, partition the identified content into at least two sections,*"

Kocher does not teach a processing device that partitions content into sections.

- "*wherein each of the at least two sections has a duration which is less than a duration of a threshold duration value assigned by the screening algorithm,*"

Kocher does not teach a processing device that partitions content into sections having durations that are less than a threshold duration, and does not teach a threshold duration that is assigned by a screening algorithm.

- "*and subject the partitioned content to the screening algorithm.*"

Kocher does not teach a processing device that submits partitioned content to a screening algorithm.

In the rejection of claim 14, the final Office action relies upon the same basis as in the rejection of claim 1, discussed above.

Because Kocher does not teach each of the elements of the applicants' claimed invention, the applicants respectfully maintain that claim 14 is patentable under 35 U.S.C. 102(e) over Kocher.

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### **Claim 15**

Claim 15 (in *italics*, below) specifically claims:

- *"15. An article of manufacture for attacking a screening algorithm,"*

Kocher does not teach an article of manufacture for attacking a screening algorithm.

- *"the article comprising a machine readable medium containing one or more programs which when executed implement the steps of: identifying content to be downloaded; partitioning the content into at least two sections,"*

Kocher does not teach a program that partitions content into sections.

- *"wherein each of the at least two sections has a duration which is less than a duration of a threshold duration value assigned by the screening algorithm;"*

Kocher does not teach a program that partitions content into sections such that the sections have a duration that is less than a threshold duration value assigned by a screening algorithm.

- *"and subjecting the partitioned content to a screening algorithm."*

Kocher does not teach a program that subjects partitioned content to a screening algorithm.

In the rejection of claim 15, the final Office action relies upon the same basis as in the rejection of claim 1, discussed above.

Because Kocher does not teach each of the elements of the applicants' claimed invention, the applicants respectfully maintain that claim 15 is patentable under 35 U.S.C. 102(e) over Kocher.



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### CONCLUSIONS

Because Kocher fails to teach the elements of the applicants' claimed invention, the Applicant respectfully requests that the Examiner's rejection of claims 1-15 under 35 U.S.C. 102(e) over Kocher be reversed by the Board, and the claims be allowed to pass to issue.

Respectfully submitted,



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APPENDIX  
CLAIMS ON APPEAL

1. A method of attacking a screening algorithm, the method comprising:  
    identifying content to be downloaded;  
    partitioning the content into at least two sections wherein each of the at least two sections has a duration which is less than a threshold duration value assigned by the screening algorithm; and  
    subjecting the partitioned content to the screening algorithm.
2. The method of attacking a screening algorithm as recited in claim 1 wherein the screening algorithm is a Secure Digital Music Initiative screening algorithm.
3. The method of attacking a screening algorithm as recited in claim 1 wherein the screening algorithm relies on a sampling of data contained within the content.
4. The method of attacking a screening algorithm as recited in claim 1 wherein the content is downloaded from the Internet.
5. The method of attacking a screening algorithm as recited in claim 1 further comprising  
    writing the content to a memory device subsequent to the content being subjected to and passing the screening algorithm.
6. The method of attacking a screening algorithm as recited in claim 1 further comprising  
    restoring the integrity of the content by reassembling the sections subsequent to the sections passing through the screening algorithm.

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7. The method of attacking a screening algorithm as recited in claim 1 wherein  
a duration of each of the at least two sections is in the range of about 0.1  
seconds to about 1.5 seconds.
8. The method of attacking a screening algorithm as recited in claim 1 wherein  
the content is subjected to the screening algorithm one section at a time.
9. The method of attacking a screening algorithm as recited in claim 1 further  
comprising  
determining whether all of the sections of content have passed through the  
screening algorithm.
10. The method of attacking a screening algorithm as recited in claim 1 wherein  
the sections of content are combined in groups prior to being subjected to the  
screening algorithm.
11. The method of attacking a screening algorithm as recited in claim 10 wherein  
the sections of content are randomly combined in groups.
12. The method of attacking a screening algorithm as recited in claim 1 further  
comprising  
shuffling the sections of content prior to the sections being subjected to the  
screening algorithm.
13. The method of attacking a screening algorithm as recited in claim 1 further  
comprising  
creating a table of contents relating to the order of the sections of content.

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14. An apparatus for attacking a screening algorithm comprising:  
a processing device having a processor and a memory,  
the processor being configured to:  
identify content to be downloaded,  
partition the identified content into at least two sections, wherein each  
of the at least two sections has a duration which is less than a duration of a threshold  
duration value assigned by the screening algorithm, and  
subject the partitioned content to the screening algorithm.

15. An article of manufacture for attacking a screening algorithm, the article  
comprising a machine readable medium containing one or more programs which  
when executed implement the steps of:  
identifying content to be downloaded;  
partitioning the content into at least two sections, wherein each of the at least  
two sections has a duration which is less than a duration of a threshold duration  
value assigned by the screening algorithm; and  
subjecting the partitioned content to a screening algorithm.